

**3. Program Effectiveness: What evidence do you have of the program's effectiveness in increasing student achievement?**

**The Montessori method** is a comprehensive educational approach from birth through adolescence based on the observations of the individual child's needs. The methodology incorporates an understanding of children's natural learning tendencies as they unfold in "prepared environments" for multi-age groups (i.e., 0-3, 3-6, 6-9, 9-12, 12-15, 15-18 and 18-21 year old). Montessori education was founded by Dr. Maria Montessori, who opened her first "children house" (school) in 1907 in Rome. Today in the United States, there are more than 3,000 private Montessori and close to 200 public schools (including 35 charter schools) with Montessori-styled programs.

Since 1998, the Northwest Regional Educational Laboratory has accepted the Montessori method as a comprehensive school reform model and included it in their *Catalog of School Reform Models*. Numerous studies have documented the academic achievement and school readiness of the Montessori method. Dawson, in an unpublished Master's thesis (1988) studies the academic performance of public elementary Montessori schools in Houston, Texas by race. The study revealed that the Montessori method was extremely effective for all races, but especially for Hispanics. The results of the study demonstrate the model's effectiveness in helping students who did not possess a strong command of standard-English language and skills (ESL and urban youth) make significant academic gains, in spite of perceived limitations. Furthermore, Dawson reported that the class means for achievement for all Montessori trained students were above the district norms. Studies conducted by Karnes (1983) and Miller and Dyer (1975) examined different preschool programs and found that Montessori programs were the most effective in producing long-term school success. The research concluded that the gains produced by Montessori preschools are less likely to deteriorate over time than those of other programs, and may not fade out at all if the Montessori program is continued beyond preschool. Furthermore, longitudinal studies support the effectiveness of the Montessori method during the middle school and high school years.

**The Wilson Reading System** is a research-based program designed for students who struggle with decoding and spelling. Developed at the Massachusetts's Center for Students with Language/Learning Disabilities in the late 1980's, it is now used in school districts throughout the country. The Wilson Reading System teaches students word structure and language through a multisensory, sequenced, 12-step program.

In studies conducted by Clark and Uhry (1995) and Wilson and O'Connor (1995), found that 220 learning disabled students were able to make significant gains in word attack, reading comprehension, total reading and spelling on the Woodcock Reading Mastery Test-Revised. For example, after an average of 62 Wilson reading lessons, the average gain for all students in word attack was 4.6 grade levels, from a pretest average score of 2.85 to a post-test score of 7.44.

**Saxon Math** provides incremental instruction, continual practice, and cumulative assessment. Saxon's instructional approach to teaching math is supported by Gagne's

cumulative learning theory (1965 and 1962) and Anderson's ACT theory (1983). Gagne's theory of cumulative learning is based on the premise that intellectual skills can be broken down into simpler skills, which can in turn be broken into even simpler skills. The theory further states that intellectual skill objectives are best achieved when patterns are arranged in a sequential manner, beginning with prerequisite skills and leading to the more complex skills. The sequence of instruction must demonstrate how each lesson and sub-skills are related.

Anderson's ACT theory explains the development of expertise through three stages: cognitive, associative and autonomous. During the stage cognitive stage students practice and memorize facts related to a particular domain or skill that guide them in problem solving. During the associative stage students detect errors and clear up misconceptions through continual practice and feedback. During the autonomous stage the student have practiced a skill until it has become automatic.

The sound theoretical framework and pedagogy of Saxon Math have lead to numerous studies including foundational research and independent program efficacy studies that support the program. For example, a study conducted by Imrisek (1989) found that a sixth graders using the Saxon test scored significantly higher than non-Saxon group and that the Saxon group were exposed to a larger amount and wider variety of mathematical concepts and skills.

**TestEdge** is a learning readiness program that is research based and scientifically validated. TestEdge is based on the leading research conducted in the fields of the physiology of learning and performance. The program teaches students tools and strategies to facilitate higher cognitive functions while reducing and refocusing negative emotions and physical symptoms. It significantly improves test scores, learning cycles, comprehension, listening skills, focus and attention, memory recall, and motivation to succeed. The TestEdge classroom program for grades 7-12 is already in used by thousands of students across the country.

Students who took the Minnesota Basic Standards Test showed mean increases of 35% in math and 14% in reading after completing the three-week TestEdge program. Sixty-five percent of the TestEdge-trained students passed the Minnesota Basic Standards Test in math and/or reading as compared to the districts average passing rate for all seniors re-taking the test at the same time.